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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

jc544 U.S. PTO
01/18/00

Applicant: CHAUVIN

Docket: 9320.95US01

Title: MANUFACTURING PROCESS FOR AN AUTOMOBILE VEHICLE DOOR, AND THE CORRESPONDING DOOR

jc584 U.S. PTO
09/484344
01/18/00

CERTIFICATE UNDER 37 CFR 1.10
'Express Mail' mailing label number: EL435539145US
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By: Linda McCormick
Name: Linda McCormick

BOX PATENT APPLICATION
Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

We are transmitting herewith the attached:

- ☒ Transmittal sheet, in duplicate, containing Certificate under 37 CFR 1.10.
- ☒ Utility Patent Application: Spec. 11 pgs; 15 claims; Abstract 1 pg.
  The fee has been calculated as shown below in the 'Claims as Filed' table.
- ☒ 2 sheets of formal drawings
- ☒ An unsigned Combined Declaration and Power of Attorney
- ☒ A check in the amount of $690.00 to cover the Filing Fee
- ☒ Other: Preliminary Amendment; Information Disclosure Statement; Form 1449; 7 cited references; Communication regarding Priority Document
- ☒ Return postcard

CLAIMS AS FILED

Number of Claims Filed		In Excess of:		Number Extra		Rate		Fee
Basic Filing Fee								$690.00
Total Claims								
15	–	20	=	0	x	18.00	=	$0.00
Independent Claims								
1	–	3	=	0	x	78.00	=	$0.00
MULTIPLE DEPENDENT CLAIM FEE								$0.00
TOTAL FILING FEE								$690.00

Please charge any additional fees or credit overpayment to Deposit Account No. 13–2725. A duplicate of this sheet is enclosed.

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Reg. No.: 33,112
Initials: JJG:tvm

S/N Unknown PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	CHAUVIN	Examiner:	Unknown
Serial No.:	Unknown	Group Art Unit:	Unknown
Filed:	January 18, 2000	Docket No.:	9320.95US01
Title:	MANUFACTURING PROCESS FOR AN AUTOMOBILE VEHICLE DOOR, AND THE CORRESPONDING DOOR		

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By: Linda McCormick
Name: Linda McCormick

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D. C. 20231

Dear Sir:

In connection with the above–identified application filed herewith, please enter the following preliminary amendment:

IN THE CLAIMS

In claim 4, line 2, delete "any one of claims 1 to 3" and insert—claim 1—

In claim 5, line 2, delete "claims 3 and 4" and insert—claim 3—

In claim 6, line 2, delete "any one of claims 1 to 5" and insert—claim 1—

In claim 7, line 2, delete "any one of claims 1 to 6" and insert—claim 1—

In claim 8, line 2, delete "any one of claims 1 to 7" and insert—claim 1—

In claim 9, line 2, delete "any one of claims 1 to 8" and insert—claim 1—

In claim 12, line 2, delete "either of claims 10 and 11" and insert—claim 10—

In claim 13, line 2, delete "either of claims 10 and 11" and insert—claim 10—

In claim 15, lines 2 & 3, delete "any one of claims 1 to 14" and insert—claim 1—

REMARKS

The above preliminary amendment is made to remove multiple dependencies from claims 4, 5, 6, 7, 8, 9, 12, 13 and 15.

Applicants respectfully request that the preliminary amendment described herein be entered into the record prior to calculation of the filing fee and prior to examination and consideration of the above–identified application.

If a telephone conference would be helpful in resolving any issues concerning this communication, please contact Applicants' primary attorney–of record, John J. Gresens (Reg. No. 33,112), at (612) 371.5265.

Respectfully submitted,

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Dated: January 18, 2000

By _____
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MANUFACTURING PROCESS FOR AN AUTOMOBILE VEHICLE DOOR, AND THE CORRESPONDING DOOR

The domain of this invention is the manufacture of automobile vehicles. More precisely, the invention relates to the manufacture of doors for these automobile vehicles.

Conventionally, an automobile vehicle door has a solid lower part and an upper glazed part. The glazed part is usually surrounded by an upper frame inside which the window fits. This frame is formed in the door structure.

Figure 1 shows an example of a door of this type, like most doors installed on vehicles at the present time. This type of door has a structural element 11 inside which door opening and locking means 12 are fitted, together with a window 13 and the mechanism 14 for sliding the window in a slit provided for it formed in the lower part of the door.

An outer bodywork panel 15, and an inner trim 16, are then added.

Doors of this type have a number of disadvantages. They involve a large number of components to be assembled, and their assembly is long and difficult,

particularly for the sliding window 13 that must be positioned very precisely.

In the case of a manual or electrical mechanism, the equipment for moving the window 13 is complex, heavy and cumbersome.

Furthermore, the fact that the window can move into the lower part of the door causes a number of problems for safety (position and size of the lateral stiffeners 17), esthetics and ergonomy (size of storage pockets 18).

The presence of an upper frame fixed to the lower part on the structural element 11 and on the bodywork panel 15, also makes manufacturing and assembly of the door rather difficult, particularly since an appropriate seal must be placed in this frame for waterproofing.

Some manufacturers have designed vehicles in which the doors do not have upper frames, in which the window alone closes the upper part. Other problems arise in this case, particularly related to the overall stiffness and waterproofing.

Waterproofing is a serious problem in the slit through which the window slides inside the door. Regardless of how efficient these seals are, dust and moisture eventually penetrate inside the door and in the short or long term modify or degrade operation of the door and/or window opening mechanism.

The invention is intended to correct these various disadvantages in prior art.

More precisely, one objective of the invention is to provide a process for manufacturing a door for an automobile vehicle that is simpler and faster to use than known manufacturing processes.

Another objective of the invention is to provide a door, and the corresponding manufacturing process, that

contains fewer components and has a lighter weight than known techniques.

Another objective of the invention is to provide a similar door with improved waterproofing, without any complex or expensive special equipment.

Another objective of the invention is to provide a manufacturing process that can be used to make doors with new characteristics, particularly concerning esthetics and ergonomy, and particularly doors that provide more space for passengers and/or internal storage pockets.

These objectives, and others which will become clearer later, are achieved according to the invention using a process for manufacturing a door for an automobile vehicle, in which said door is made in two parts assembled independently of each other:

- a lower part, without guide means for a moving window, and
- an upper part containing a window,

said lower and upper parts then being fixed to each other at an assembly area of said door, extending approximately horizontally and corresponding to the top of said lower part and the bottom of said upper part.

Thus, the invention is based on a quite new and not obvious approach to making doors for automobile vehicles.

Conventionally, the upper part of a door is physically connected to its lower part at the beginning of assembly through the presence of a frame formed in the same bodywork element and/or by the presence of means enabling the window to slide. According to the invention, the two parts are independent and they are only fixed together when they are finished.

There are no elements that move and/or are shared between the two parts. They are simply fastened

together. They are fastened at an assembly area which corresponds approximately to the bottom of the upper part (area in which the slit is formed through which the window slides conventionally in known types of doors).

Advantageously, said upper part of the door comprises means of closing said window, comprising a fixed assembly and at least one mobile panel, said mobile panel being used to open or close an opening formed in said fixed assembly.

In other words, the upper part can advantageously be fitted with a "flush" window using the technique developed by the applicant for this patent application.

In this case, said mobile panel is preferably mounted on at least one support and/or guide element (for example rails) fixed to said fixed assembly.

According to one advantageous embodiment of the invention, said upper part of the door comprises a frame or at least one approximately vertical upright on its inner face.

Preferably, at least one of the ends of at least one of said support and/or guide elements is fixed to said frame or said approximately vertical uprights of said closing means.

Thus, if the fixed assembly is accidentally broken, the moving panel remains in position and cannot injure the driver or his passenger.

According to another aspect of the invention, said step in which a lower part of the door is made advantageously includes the assembly of an outer bodywork panel 212 and an inner trim on a structural element.

Therefore, compared with conventional methods, these operations are very simple, particularly in that there are no window sliding means and no upper frame (which would have to be fitted with a seal).

Said attachment step can involve at least one of the operations belonging to the group including gluing, welding, brazing or riveting.

According to a first embodiment of the invention, said mobile panel is mounted on two support and/or guide elements, so as to slide in a plane approximately parallel to the plane formed by said fixed assembly.

In particular, said mobile panel may be mounted to fit in the plane formed by said fixed assembly in the closed position.

For example, its mechanism can be broken down into two independent displacements:

- a locking/unlocking displacement perpendicular to the plane formed by said fixed assembly, and enabling passage from said plane formed by said fixed assembly to a sliding plane approximately parallel to the plane formed by said fixed assembly,
- displacement by sliding in said sliding plane.

According to one approach, said mobile panel may have a continuous mechanism, such that the plane formed by said fixed assembly moves gradually into a sliding plane approximately parallel to said plane formed by said fixed assembly.

According to different embodiments, said sliding plane is located inside the vehicle or outside the vehicle.

In another embodiment, said mobile panel is mounted to swing around an axis of rotation parallel to the plane formed by said fixed assembly.

The invention also relates to doors obtained by using the process described above.

Other characteristics and advantages of the invention will appear after reading the following description of a preferred embodiment of the invention

given as a simple illustrative and non-limitative example, and the drawings in which:

- figure 1, already mentioned in the preamble, shows an exploded view of a known type of door;
- figure 2 illustrates an exploded view of a door according to the invention;
- figure 3 is a simplified block diagram of the process for manufacturing a door like that illustrated in figure 2.

As mentioned above, the invention proposes a completely new approach to making doors for automobile vehicles, based on manufacture in two independent parts fixed together for example by gluing.

Figure 2 shows an exploded view of an example of this type of door. It comprises a lower part 21 and an upper part 22. There are no moving elements cooperating with the two parts. On the contrary, the two parts are completely independent of each other and are fixed to each other permanently in a fixed manner at the end of manufacturing.

The lower part 21 comprises three main components; a structural element 211 into which an outer bodywork panel and a inner trim 213 are fitted.

Means of opening and locking the door are conventional in themselves and are not shown. They are fitted on the structural element 211.

Other advantages of the invention can clearly be seen in this lower part 21:

- ease of assembly, since only three components (plus the locking means) are necessary;
- reduction in the weight of the assembly due to the lack of the sliding window and the corresponding mechanism;
- a gain in volume, since the housing 2131 and the elbow rest 2132 formed in the trim 213 can (at

least partially) penetrate inside the volume defined by the structural element 211;

- simplification of the assembly and an improvement to side stiffeners 2111, since there are no constraints due to a sliding window;
- possibility of new designs and ergonomic choices;
- elimination of all waterproofing problems, since there are no longer any openings on this lower part 21.

The upper part 22 is provided with a single-piece window 222 made of glass or a similar material. A frame 221 fitted on the inside face (facing the inside of the vehicle) surrounds the window. Obviously, the frame 221 could be reduced to only two approximately vertical uprights, possibly over only part of the height of the window.

Note that there is no visible external frame, such that a flush, esthetic and aerodynamic appearance can be obtained. The inner frame 221 provides stiffness, and if necessary holds the rails described later in position.

Although this window 222 may be fixed, it is usually desirable that it can be opened (228) depending on the needs and wishes of the user. In this case, the opening system is formed in the upper part 22 independently of the lower part 21. It is advantageously a "flush" window like that developed by the applicant of this patent and for example described in patent application EP - 0 778 168.

More generally, the relative movement of the mobile panel with respect to the assembly may be of any appropriate type independently of the structure of the door according to the invention.

In particular, the mobile panel(s) could be designed to slide in a plane approximately parallel to the plane formed by the mobile assembly.

In one simplified embodiment, a mobile panel is guided to slide along rails that comprise an internal support and guide seal. In this case, it is beneficial to provide waterproofing means when the mobile panel is in the closed position.

According to another embodiment, the mobile panel does not remain in a single plane parallel to the fixed assembly, but rather lies in the plane of this fixed assembly in the closed position to close the opening. Thus, waterproofing and the esthetic appearance are improved at the price of a more complex guidance, the closing device looking like a portion of the bodywork without any visual interruption when in the closed position.

The mobile part may be guided in a single progressive operation, as suggested in document EP - 778 168 mentioned above. According to another technique, the movement of the mobile panel may be broken down into two separate movements:

- a sliding movement parallel to the plane formed by the fixed assembly;
- a locking/unlocking movement perpendicular to this plane.

For example, this type of movement is described in document EP-0 857 844, deposited by the applicant who deposited this patent application.

One example of such a window is shown in figure 2. Therefore, the window comprises a fixed assembly 221, for example made of a transparent plastic material, in which an opening 228 has been formed that closes off or opens a mobile panel 223.

In the two documents mentioned above, the mobile part slides inside the vehicle. However, it is possible that sliding takes place outside the vehicle, by adapting hinge devices supporting the mobile part and installed in the two rails for this purpose.

According to another approach, the mobile part may tilt instead of sliding. In this case a single rail may be sufficient. Document EP - 0 778 168 describes an example embodiment of this type.

Finally, and obviously, several mobile parts may be provided, possibly with different assemblies (for example one sliding part and one tilting part).

Similarly, the fixed assembly may be made in one or several parts and from any appropriate material. It may be partially translucid, and integrated into the guide rails of the mobile part at its manufacturing stage.

Advantageously, rails 225 and 226 supporting the mobile panel extend (227) as far as the frame (or the uprights) and are fixed to this frame. They may also be integrated into the frame itself, particularly for the lower frame. Thus, if the fixed assembly is accidentally broken, the mobile panel remains in position held by the rail, and there is no risk of injuring the driver or his passenger.

Furthermore, note that the invention closing device is not necessarily absolutely plane. Obviously, its surface could be curved, particularly to follow the lines and shape of the vehicle bodywork. Consequently, the term "plane" (plane of the fixed assembly, sliding plane) must obviously be understood as referring to the surface of the door. In particular, sliding may take place along a curved trajectory provided that the rails and hinge means contained in them are designed for this purpose.

This type of window has many advantages in terms of ease of manufacture, weight, cost, esthetics, etc. These various aspects are discussed in the documents mentioned above.

Advantageously, a rear view mirror 224 is mounted directly on the upper part 22, and more precisely on the frame 221 and/or the fixed assembly 222.

Once each of the parts 21 and 22 have been assembled, they are fixed to each other to form the finished door. Figure 3 shows this manufacturing process.

As mentioned above, the manufacture of a door according to the invention comprises three main steps:

- assembly 31 of the lower part of the door;
- assembly 32 of the upper part of the door;
- attachment 33 of these two lower and upper parts, for example by gluing.

In particular, assembly of the lower part includes reception of the structural element 311, placement of locking means 312, then the inner trim 313 and the outer bodywork panel 314. No opening (slit) is provided to enable the passage of a sliding window.

The assembly 32 of the upper part is made independently and in particular comprises reception of the fixed assembly 321 of the window, assembly of the rails 322 (unless they are made directly in the body of the fixed assembly) and placement of the mobile panel 323, and appropriate locking and waterproofing means. The assembly is then placed on the frame 324.

Finally, the base of the frame 324 and the top of the lower part are fixed together 33. Preferably, they are fixed together by providing means of assisting and placing the two parts with respect to each other, such as a groove on the lower part into which the upper part

will fit (possibly after placing glue and/or a seal in said groove).

CLAIMS

1. Process for manufacturing a door for an automobile vehicle, characterized in that said door is made in two parts assembled independently of each other:

- a lower part (21), without guide means for a moving window, and
- an upper part (22) containing a window,

and in that said lower (21) and upper (22) parts are then fixed (33) to each other at an assembly area of said door, extending approximately horizontally and corresponding to the top of said lower part and the bottom of said upper part.

2. Process for manufacturing a door according to claim 1, characterized in that said upper part (22) of the door comprises means of closing said window, comprising a fixed assembly (222) and at least one mobile panel (223), said mobile panel being used to open or close an opening (228) formed in said fixed assembly.

3. Process for manufacturing a door according to claim 2, characterized in that said mobile panel (223) is mounted on at least one support and/or guide element (225, 226) fixed to said fixed assembly (222).

4. Process for manufacturing a door according to any one of claims 1 to 3, characterized in that said

upper part (22) of the door comprises a frame (221) or at least one approximately vertical upright on its inner face.

5. Process for manufacturing a door according to claims 3 and 4, characterized in that at least one of the ends of at least one of said support and/or guide elements (225, 226) is fixed to said frame (221) or said approximately vertical uprights of said closing means.

6. Process for manufacturing a door according to any one of claims 1 to 5, characterized in that said step (31) in which a lower part (21) of the door is made advantageously includes the assembly of an outer bodywork panel (212) and an inner trim (213) on a structural element (211).

7. Process for manufacturing a door according to any one of claims 1 to 6, characterized in that said attachment step (33) can involve at least one of the operations belonging to the group including gluing, welding, brazing or riveting.

8. Process for manufacturing a door according to any one of claims 1 to 7, characterized in that said mobile panel (223) is mounted on two support and/or guide elements (225, 226) so as to slide in a plane approximately parallel to the plane formed by said fixed assembly.

9. Process for manufacturing a door according to any one of claims 1 to 8, characterized in that said mobile panel is mounted to fit in the plane formed by said fixed assembly (222) in the closed position.

10. Process for manufacturing a door according to claim 9, characterized in that the mechanism of the mobile panel (223) can be broken down into two independent displacements:

- a locking/unlocking displacement perpendicular to the plane formed by said fixed assembly, and

enabling passage from said plane formed by said fixed assembly to a sliding plane approximately parallel to the plane formed by said fixed assembly,

- displacement by sliding in said sliding plane.

11. Process for manufacturing a door according to claim 9, characterized in that said mobile panel (223) has a continuous mechanism, such that the plane formed by said fixed assembly moves gradually into a sliding plane approximately parallel to said plane formed by said fixed assembly.

12. Process for manufacturing a door according to either of claims 10 and 11, characterized in that said sliding plane is located inside the vehicle.

13. Process for manufacturing a door according to either of claims 10 and 11, characterized in that said sliding plane is located inside the vehicle.

14. Process for manufacturing a door according to claim 8, characterized in that said mobile panel is mounted to swing around an axis of rotation parallel to the plane formed by said fixed assembly.

15. Door for an automobile, characterized in that it is manufactured using the process according to any one of claims 1 to 14.

ABSTRACT

MANUFACTURING PROCESS FOR AN AUTOMOBILE VEHICLE DOOR, AND THE CORRESPONDING DOOR

The invention relates to a process for manufacturing a door for an automobile vehicle, characterized in that said door is made in two parts assembled independently of each other:

- a lower part (21), without guide means for a moving window, and
- an upper part containing a window,

said lower (21) and upper (22) parts are then fixed (33) to each other at an assembly area of said door, extending approximately horizontally and corresponding to the top of said lower part and the bottom of said upper part.

The invention also relates to doors obtained using this process.

Figure 2.

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Date of Deposit JANUARY 18, 2000

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LINDA McCormick

printed name

Linda McCormick

Signature

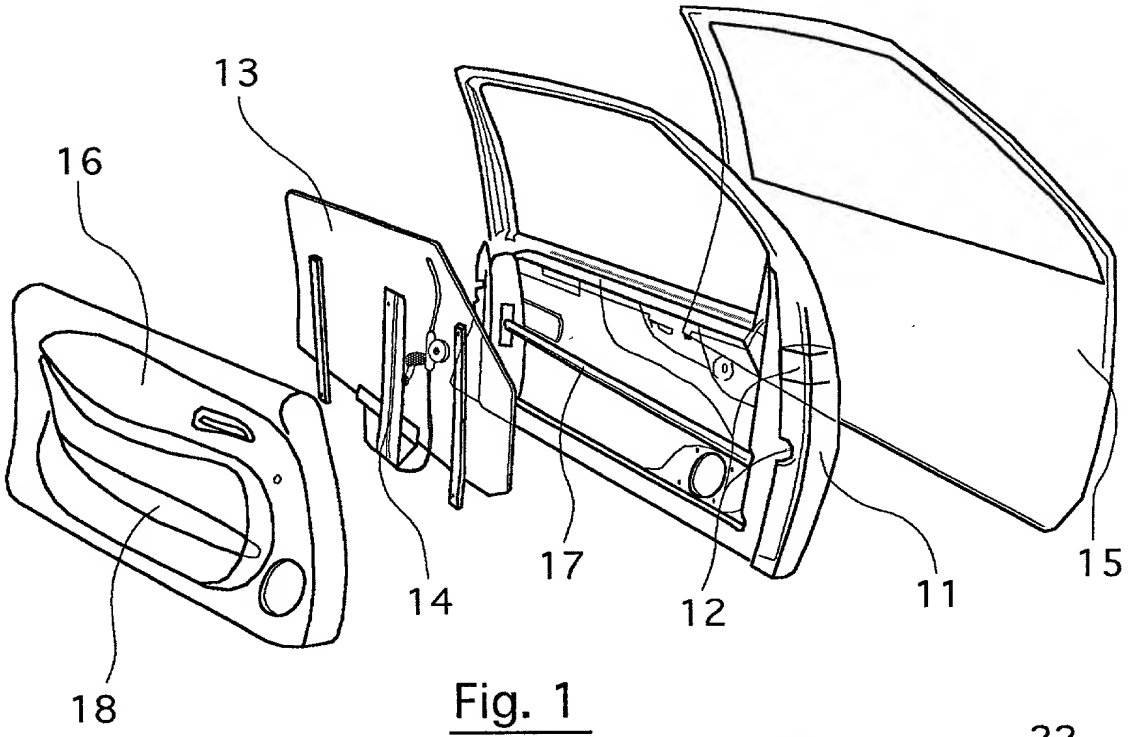
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Fig. 1

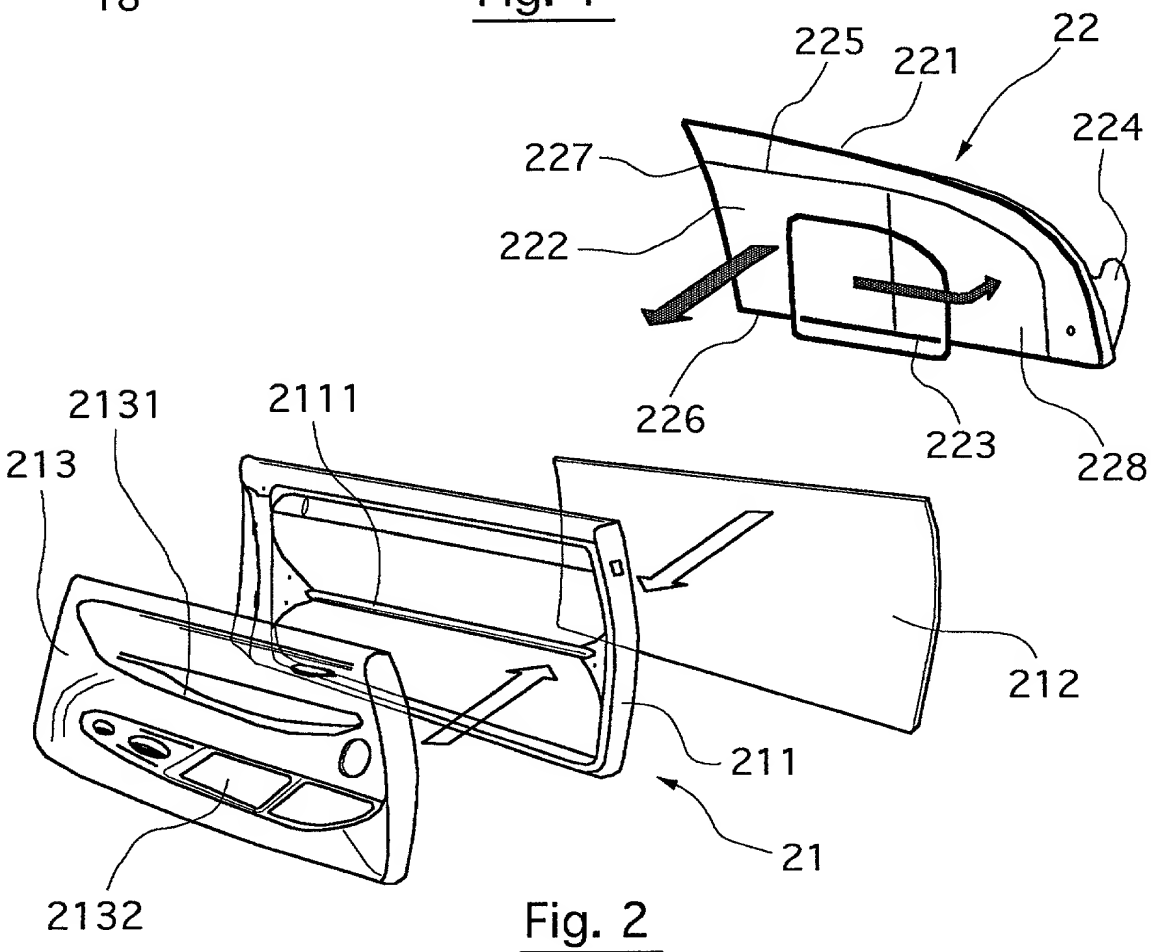
225
221
22
224
227
222
226
223
228
2131
2111
213
212
211
21
2132

Fig. 2

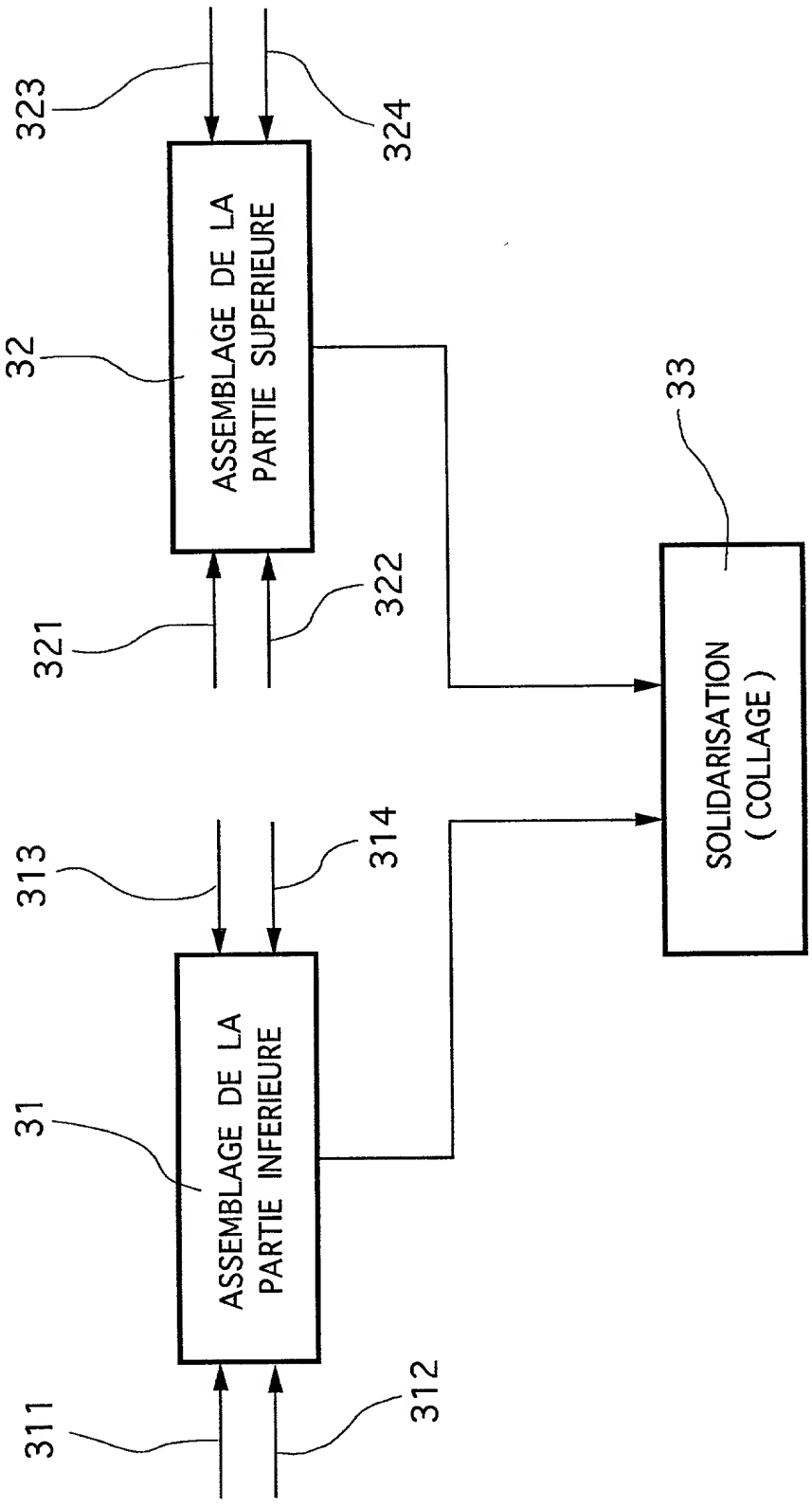
323
324
32
ASSEMBLAGE DE LA PARTIE SUPERIEURE
321
322
33
SOLIDARISATION (COLLAGE)
313
314
31
ASSEMBLAGE DE LA PARTIE INFERIEURE
311
312

Fig. 3

Attorney Docket No. 9320.95US01

MERCHANT & GOULD P.C.

United States Patent Application

COMBINED DECLARATION AND POWER OF ATTORNEY

As a below named inventor I hereby declare that: my residence, post office address and citizenship are as stated below next to my name; that

I verily believe I am the original, first and sole inventor (if only one name is listed below) or a joint inventor (if plural inventors are named below) of the subject matter which is claimed and for which a patent is sought on the invention entitled: MANUFACTURING PROCESS FOR AN AUTOMOBILE VEHICLE DOOR, AND THE CORRESPONDING DOOR

The specification of which
a. ☒ is attached hereto
b. ☐ was filed on as application serial no. and was amended on (if applicable) (in the case of a PCT–filed application) described and claimed in international no. filed and as amended on (if any), which I have reviewed and for which I solicit a United States patent.

I hereby state that I have reviewed and understand the contents of the above–identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the patentability of this application in accordance with Title 37, Code of Federal Regulations, § 1.56 (attached hereto).

I hereby claim foreign priority benefits under Title 35, United States Code, § 119/365 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on the basis of which priority is claimed:

a. ☐ no such applications have been filed.
b. ☒ such applications have been filed as follows:

FOREIGN APPLICATION(S), IF ANY, CLAIMING PRIORITY UNDER 35 USC § 119			
COUNTRY	**APPLICATION NUMBER**	**DATE OF FILING (day, month, year)**	**DATE OF ISSUE (day, month, year)**
France	99 00890	21 January 1999	
ALL FOREIGN APPLICATION(S), IF ANY, FILED BEFORE THE PRIORITY APPLICATION(S)			
COUNTRY	**APPLICATION NUMBER**	**DATE OF FILING (day, month, year)**	**DATE OF ISSUE (day, month, year)**

I hereby claim the benefit under Title 35, United States Code, § 120/365 of any United States and PCT international application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, § 1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application.

U.S. APPLICATION NUMBER	DATE OF FILING (day, month, year)	STATUS (patented, pending, abandoned)

I hereby claim the benefit under Title 35, United States Code § 119(e) of any United States provisional application(s) listed below:

U.S. PROVISIONAL APPLICATION NUMBER	DATE OF FILING (Day, Month, Year)

I hereby appoint the following attorney(s) and/or patent agent(s) to prosecute this application and to transact all business in the Patent and Trademark Office connected herewith:

Albrecht, John W.	Reg. No. 40,481	Lacy, Paul E.	Reg. No. 38,946
Anderson, Gregg I.	Reg. No. 28,828	Larson, James A.	Reg. No. 40,443
Ansems, Gregory M.	Reg. No. 42,264	Liepa, Mara E.	Reg. No. 40,066
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Berns, John M.	Reg. No. 43,496	McIntyre, Jr., William F.	Reg. No. P-44,921
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Chiapetta, James R.	Reg. No. 39,634	Reich, John C.	Reg. No. 37,703
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Dalglish, Leslie E.	Reg. No. 40,579	Scull, Timothy B.	Reg. No. 42,137
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Epp Ryan, Sandra	Reg. No. 39,667	Storer, Shelley D.	Reg. No. 45,135
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Goggin, Matthew J.	Reg. No. 44,125	Sumners, John S.	Reg. No. 24,216
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Gould, John D.	Reg. No. 18,223	Trembath, Jon R.	Reg. No. 38,344
Gregson, Richard	Reg. No. 41,804	Underhill, Albert L.	Reg. No. 27,403
Gresens, John J.	Reg. No. 33,112	Vandenburgh, J. Derek	Reg. No. 32,179
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Hillson, Randall A.	Reg. No. 31,838	Weaver, Karrie G.	Reg. No. 43,245
Holzer, Jr., Richard J.	Reg. No. 42,668	Welter, Paul A.	Reg. No. 20,890
Johnston, Scott W.	Reg. No. 39,721	Whipps, Brian	Reg. No. 43,261
Kadievitch, Natalie D.	Reg. No. 34,196	Wickhem, J. Scot	Reg. No. 41,376
Kastelic, Joseph M.	Reg. No. 37,160	Williams, Douglas J.	Reg. No. 27,054
Kettelberger, Denise	Reg. No. 33,924	Witt, Jonelle	Reg. No. 41,980
Keys, Jeramie J.	Reg. No. 42,724	Wu, Tong	Reg. No. 43,361
Knearl, Homer L.	Reg. No. 21,197	Xu, Min S.	Reg. No. 39,536
Kowalchyk, Alan W.	Reg. No. 31,535	Zeuli, Anthony R.	Reg. No. 45,255
Kowalchyk, Katherine M.	Reg. No. 36,848		

I hereby authorize them to act and rely on instructions from and communicate directly with the person/assignee/attorney/firm/ organization who/which first sends/sent this case to them and by whom/which I hereby declare that I have consented after full disclosure to be represented unless/until I instruct Merchant & Gould P.C. to the contrary.

Please direct all correspondence in this case to Merchant & Gould P.C. at the address indicated below:

Merchant & Gould P.C.
3100 Norwest Center
90 South Seventh Street
Minneapolis, MN 55402-4131

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

§ 1.56 Duty to disclose information material to patentability.

(a) A patent by its very nature is affected with a public interest. The public interest is best served, and the most effective patent examination occurs when, at the time an application is being examined, the Office is aware of and evaluates the teachings of all information material to patentability. Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section. The duty to disclose information exists with respect to each pending claim until the claim is canceled or withdrawn from consideration, or the application becomes abandoned. Information material to the patentability of a claim that is canceled or withdrawn from consideration need not be submitted if the information is not material to the patentability of any claim remaining under consideration in the application. There is no duty to submit information which is not material to the patentability of any existing claim. The duty to disclose all information known to be material to patentability is deemed to be satisfied if all information known to be material to patentability of any claim issued in a patent was cited by the Office or submitted to the Office in the manner prescribed by §§ 1.97(b)–(d) and 1.98. However, no patent will be granted on an application in connection with which fraud on the Office was practiced or attempted or the duty of disclosure was violated through bad faith or intentional misconduct. The Office encourages applicants to carefully examine:

(1) prior art cited in search reports of a foreign patent office in a counterpart application, and

(2) the closest information over which individuals associated with the filing or prosecution of a patent application believe any pending claim patentably defines, to make sure that any material information contained therein is disclosed to the Office.

(b) Under this section, information is material to patentability when it is not cumulative to information already of record or being made of record in the application, and

(1) It establishes, by itself or in combination with other information, a prima facie case of unpatentability of a claim; or

(2) It refutes, or is inconsistent with, a position the applicant takes in:

(i) Opposing an argument of unpatentability relied on by the Office, or

(ii) Asserting an argument of patentability.

A prima facie case of unpatentability is established when the information compels a conclusion that a claim is unpatentable under the preponderance of evidence, burden-of-proof standard, giving each term in the claim its broadest reasonable construction consistent with the specification, and before any consideration is given to evidence which may be submitted in an attempt to establish a contrary conclusion of patentability.

(c) Individuals associated with the filing or prosecution of a patent application within the meaning of this section are:

(1) Each inventor named in the application:

(2) Each attorney or agent who prepares or prosecutes the application; and

(3) Every other person who is substantively involved in the preparation or prosecution of the application and who is associated with the inventor, with the assignee or with anyone to whom there is an obligation to assign the application.

(d) Individuals other than the attorney, agent or inventor may comply with this section by disclosing information to the attorney, agent, or inventor.